BUBT | BANGLADESH UNIVERSITY OF BUSINESS AND TECHNOLOGY

ASSIGNMENT

ASSIGNMENT NO -02

Course NO : CSE 122

Course Name : Object Oriented Programming LAB

Submission Date : 10-04-2023

Submitted To
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Submitted By
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Marks – 10

CO	Question
CO3	**Demonstrate** a C++ code that creates a class called *Fraction*. The class Fraction has two attributes: *numerator and denominator.* • In your *constructor (inyour__init__ method)*, verify(assert?) that the numerator and denominator passed in during initiation are both of type int. If you want to be thorough, also check to make sure that the denominator is not zero. • Write a *.reduce() method* that will reduce a fraction to lowest terms. • Override the Object class's __str__ and __repl__ methods so that your objects will print out nicely. Remember that__str__ is more for humans; __repl__ is more for programmers. Ideally ,the__repl__ method will produce a string that you can run through the eval() function to clone the original fraction object. • Override the + operator. In your code, this means that you will implement the special method __add__. The signature of the __add__ function will be def __add__(self, other): , and you'll return a new Fraction with the result of the addition. Run your new Fraction through the *reduce() function* before returning.

CO3 ANS:

```
#include<iostream>
#include<string>
using namespace std;
class publication
{
 protected:
 string title;
 float price;
 public:
 publication() {
 title=" ";
 price=0.0;
 }
 publication(string t,float p)
 {
 title=t;
 price=p;
 }
 public:
void getdata() {
 cout<<"Enter title of publication: ";
 cin>>title;
 cout<<"Enter price of publication: ";
 cin>>price;
 }
void putdata(void) {
 cout<<"Publication titles :"<<title<<endl;
 cout<<"Publication price :"<<price<<endl;
}
};
 class book : public publication
 {
 int pagecount;
 public:
 book()
 {
 pagecount=0;

 }
 book(string t,float p,int pc):publication(t,p)
 {
 pagecount=pc;

 }
 void getdata(void) {
```

```
publication::getdata();
 cout <<"Enter Book Page Count :";

cin>> pagecount;
 }
 void putdata(void) {
 publication::putdata();
 cout<< "Book page count:"<<pagecount <<endl;
 }
 };
 class CD: public publication
 {
 float time1;
 public:
 CD()
 {
 time1=0.0;
 }
 CD(string t, float p, float tim):publication(t,p)
 {
 time1=tim;
 }
 void getdata(void)
 {
 publication::getdata();
 cout <<"Enter tape's playing time:";
 cin>> time1;
 }
 void putdata(void)
 {
 publication::putdata();
 cout<<" Tape's playing time :"<< time1<<endl;
 }
 };
int main(){
 cout<<endl<<"Book data"<<endl;
 book b("C++",230,300);
 b.putdata();
 cout<<endl<<"CD Data"<<endl;
 CD c("C++",100,120.5);
 c.putdata();
 cout<<"\n Enter New Details Of Book :\n";
 b.getdata();
 c.getdata();
 cout<<"\n\n Book data entered by user:\n";
 b.putdata();
 c.putdata();
 return 0;
}
```